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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,384	01/15/2004	Michael P.C. Watts	P78/MII-38-20-03	5448

25108 7590 09/07/2006

MOLECULAR IMPRINTS  
PO BOX 81536  
AUSTIN, TX 78708-1536

EXAMINER

RAO, G NAGESH

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/758,384	WATTS ET AL.	
	Examiner	Art Unit	
	G. Nagesh Rao	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/16/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1) Claims 1-7 and 20-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Shih (US PG Publication 2003/0071016) which has support from a provisional application 60/328,841 filed on October 11, 2001.

Applicants claim a patterning system comprising a bifurcated heat transfer mechanism having a surface and a source to direct thermal energy toward said bifurcated heat transfer mechanism, with said bifurcated heat transfer mechanism collecting said thermal energy and conducting said thermal energy to said surface.

Examiner is taking a moment to explain what is interpreted by applicant's claim 1 and understood by applicant's specification as to what is a bifurcated heat transfer mechanism. Applicant's have denoted in previous remarks and specification the teachings of a bifurcated heat transfer mechanism, which basically comprises of a substrate coated with a black carbon material there in which underneath said substrate is a heating source. The substrate's black carbon

material heats up and develops as a localized heat source for the molded material to sit upon and be processed by both the thermal energy given off by the black carbon material and as well the heat source provided underneath said substrate.

Shih 016 describes a thermal imprinting mold system that describes in detail that the mold may be Teflon coated, a well known fluorocarbon material, (Section 0007), there being an inherent surface energy potential attributed to the coating (Section 0016) which then has the mold in contact with a substrate that may be heated via IR warming or a hot-plate, whatever it may be, it is a heat source that is directed to the mold which allows for a bifurcated heat transfer mechanism to exist and operate (Sections 0022-0027 also See Figs 1-2 which also showcase a specified imprinting layer). Examiner would like to also point out that this device exists based on various examples taught in the specification including Example 2 and Example 11. In example 11 (Section 0049), there is taught a source of radiation, a wafer, a mold positioned between said radiation source and wafer, imprinting mold layer that is coated with Teflon that is capable of acting as a thermal absorption layer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2) Claims 8-13, 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shih (US PG Publication 2003/0071016) in view of Chou (US PG Publication 2005/0037143 A1) which has support from a provisional application 60/477,161 filed on June 9, 2003.

From the aforementioned Shih 016 teaches the elements of a patterning system that is comprised of a bifurcated heat transfer mechanism. However although Shih 016 teaches in Section 0023 that the source of thermal energy can be

from light, heat, or RF radiation, it fails to explicitly teach the use of a wavelength discriminator in conjunction with the source of radiation.

Chou 143 which also pertains to a patterning system for imprint lithography, teaches the use of a wavelength discriminator in conjunction with a thermal conduction put forth on the mold, film, and substrate layers as discussed in Sections 0052-0056 and shown in Figure 2, the discussion of a scattered light component clearly reads on the teachings of a wavelength discriminator. Examiner would like to note, that applicants never contended such position, and thus it is understood by examiner that such argument was with weight and applicable against applicants art.


Therefore it would be obvious to one with ordinary skill in the art at the time of the invention to decidedly include a wavelength discriminator component of the sort to either impart selectively or measure selectively varying wavelengths of light source imparted on the patterning systems mold portion to determine how much energy one would want to put forth and be able to control at least one parameter of the imprinting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to G. Nagesh Rao whose telephone number is (571) 272-2946. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571)272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GNR

  
ROBERT DAVIS  
PRIMARY EXAMINER  
GROUP 1300-1700  
9/5/06